



# Coronavirus Disease 2019 (COVID-19)

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## Markets: Operational considerations for COVID-19 mitigation measures in global low-resource setting



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**Document purpose:** Markets are a critical place of commerce and a source of many essential goods, but they can pose potential risks for COVID-19. This document provides suggestions for mitigating COVID-19 transmission in markets in global low-resource settings and describes considerations associated with each mitigation measure. The proposals are presented in table format and are organized by mitigation practice (**physical distancing, hand hygiene, cleaning and disinfection, and respiratory hygiene**).

**Document audience:** This document is intended for use by any person, institution, or organization preparing for or responding to cases of COVID-19 in the community, and for those assisting those organizations (federal and local governments, CDC country offices, and others).

**What this document adds to previously published guidance:** This document provides suggestions that can be considered by personnel in low-resource settings outside the U.S. and can be adapted to follow national or local guidelines, and to account for local context. Local populations can be [engaged](#)   in the planning and decision-making process by identifying trusted stakeholders and community leaders to provide feedback on proposed mitigation measures before their implementation.

**Layered approach:** Mitigation measures in markets can be organized into three categories: personal controls, administrative controls, and engineering controls. These should be layered on top of each other to reduce overall risk of COVID-19 for customers and vendors in markets.

- **Personal controls:** Individual behaviors to protect themselves and those around them
- **Administrative controls:** Processes and policies that keep people safe
- **Engineering controls:** Physical structures put in place to distance people from hazards

## Physical Distancing

### Personal controls: General recommendations for physical distancing in markets

Maintain at least a **2-meter distance from others** and practice no-contact greetings.

Customers can also try to stay home as much as possible by combining trips to the market.

## Administrative and engineering controls: Possibilities for markets<sup>1</sup>

- ✓ Space stalls a few (2+) meters apart, use every other stall, and/or extend the market area when possible so that customers and vendors stay as far apart from each other as possible.
- ✓ Consider limiting to one vendor per stall.
- ✓ Food vendors make items take-away only (not for eating on-site).
- ✓ Make aisles and entrances/exits go in one direction only (see diagrams below).
- ✓ Set up markers for where customers should stand at stalls and check-out stations (2+ meters from the vendor/cashier and from other customers) and where to stand in queues (see diagrams below).
- ✓ Extend operating times to help space out crowding.
- ✓ Consider separate days or times (such as when the market opens, before others arrive) for people who are elderly or who have serious underlying medical conditions.
- ✓ Encourage households to send a designated family member, rather than multiple family members, to buy food and supplies. The designated family member would ideally not be elderly or have serious underlying medical conditions.
- ✓ Encourage use of digital payment tools when feasible, such as mobile money. If digital payment tools are not feasible, consider advising vendors and customers to place cash and change on a counter or other surface rather than exchanging money hand to hand. Advise vendors to clean and disinfect the surface on a routine basis.
- ✓ Control the flow of people in and out of the market by closing off some entry and exit points.
- ✓ Consider decreasing the number of customers allowed in the market at the same time. This can be done by assigning people with certain last names to certain days or times of day or setting a limit on the number of people allowed inside at once.
- ✓ Consider advising only vendors to handle food and other goods, not customers.
- ✓ For grocery stores/supermarkets, consider installing partitions or other physical barriers between customers and cashiers at check-out stations, if feasible.

## Materials, activities, and personnel needed for implementation

- Communication campaigns (via radio, newspaper, social media, WhatsApp, or other platforms) so that customers understand new procedures.
- Signs and/or audio messages in formats and languages suitable for local audiences within the market explaining procedures and rationale to customers and vendors.
- Paint, chalk, or other tools for marking where to stand and walk.
- Market staff to explain and remind customers of physical distancing rules and to help control the number of people in the market.
- Support from local authorities.

## Considerations and challenges for implementation



Because these engineering and administrative controls require oversight in order to be implemented effectively, markets without clear management structures may have difficulty implementing them.

There will be a cost associated with the development of communication materials, markings for where to walk and stand, and possibly paying additional staff to monitor physical distancing.


Limiting the number of people allowed in the market could be difficult to implement and could have negative impacts on households' access to food.

# Hand Hygiene

## Personal controls: General recommendations for hand hygiene in markets

**Clean hands frequently.** Hand hygiene is a critical way that people can reduce the risk of COVID-19. In markets, customers and vendors should clean hands upon entry and exit, before and after each transaction, and after blowing their nose, sneezing, or coughing, in addition to other [key times](#).  

### *Types of hand hygiene:*

**Handwashing with soap and water.** Soap and water are available in most contexts and are effective against coronaviruses. The cleanest water available (ideally from an [improved source](#)  <sup>a</sup>) should be used for handwashing, and all types of soap (bar soap, liquid soap, soapy water,<sup>b</sup> and powder soap) are effective at removing germs from hands, including the virus that causes COVID-19. Hands should be scrubbed with soap and water for at least 20 seconds and dried using single-use hand drying materials when available, or air dried.

**Cleaning with alcohol-based hand rub.** If hands are not visibly dirty, hand rub with at least 60% alcohol content can be used against coronaviruses as an alternative to cleaning hands when soap and water are not available. To use, rub hands together until they feel dry, or for approximately 20 seconds.

If soap and water or alcohol-based hand rub are unavailable or infeasible, **handwashing with 0.05% chlorine solution** can be considered as a temporary option. New chlorine solution should be made each day using the below instructions. Unused chlorine solution should be safely discarded at the end of each day in a latrine or toilet/drain connected to a septic system or sewer. Users should exercise caution to avoid getting the chlorine solution in their eyes or mouth.

To mix a chlorine handwashing solution using liquid bleach, use the percentage found on the bleach bottle (for example, 5%) and **follow these instructions**:

**[% chlorine in liquid bleach / % chlorine desired] – 1 = Total parts of water for each part bleach**


*Example of making 0.05% chlorine solution with 5% liquid bleach:*

$[5\% \text{ chlorine in liquid bleach} / 0.05\% \text{ chlorine desired}] - 1 = [5 / 0.05] - 1$

$= 99 \text{ parts of water for each 1 part liquid bleach}$

If you are using a 20 L container to mix the solution, you need 200 mL of liquid bleach and should fill the rest of the container with water.

$20 \text{ L} / 100 \text{ parts} = 0.2 \text{ L, or } 200 \text{ mL per part}$

Further instructions are available [here](#) .

<sup>a</sup>An [improved drinking water source](#) is a source that, by nature of its construction, adequately protects the source from outside contamination and may include piped household water connections, public standpipes, boreholes, protected dug wells, protected springs, and rainwater.

<sup>b</sup>“Soapy water” is a mix of water and either powdered soap (such as laundry powder or detergent) or liquid soap. To prepare, mix enough soap with water so that you can create a lather when rubbing hands together. You can use soapy water like liquid soap, being sure that there is plain water for rinsing. As detailed above, the cleanest water available should be used for soapy water and rinse water. Instructions for making soapy water can be found in [this document](#).

## Administrative and engineering controls: Possibilities for markets

- ✓ Ensure widespread access to hand hygiene facilities by placing hand hygiene stations (handwashing stations or alcohol-based hand rub dispensers) at entrances, exits, and throughout the market, including within 5 meters of toilets if any are present at the market. Hand hygiene can be made obligatory upon entry and exit of the market. Hand hygiene stations should be obviously placed so that they are hard to avoid. Vendors and customers should have easy access to handwashing facilities (ideally one per vendor or group of vendors, depending on the layout).
- ✓ In particular, handwashing stations should: 1) Allow users to scrub their hands under a stream of running water; 2) Secure provided soap (either a cage, rope, or other device); 3) Have a place to catch used water; 4) Provide single-use hand drying materials whenever possible; 5) Provide a waste bin to collect single-use hand drying materials (when applicable). More information on different handwashing station designs is available [here](#).
- ✓ The installation, supervision, and regular refilling should be the responsibility of local public health authorities but can be delegated to building / market managers.<sup>2</sup>
- ✓ If using 0.05% chlorine solution, provide those doing the mixing with personal protective equipment (rubber gloves, thick aprons, and closed shoes, as well as masks and eye protection, if available).

## Materials, activities, and personnel needed for implementation

- ☐ Handwashing stations or alcohol-based hand rub dispensers.
- ☐ Daily access to water (or alcohol-based hand rub) to refill hand hygiene stations and a consistent supply of soap.
- ☐ Market staff to check on hand hygiene stations regularly and refill when necessary.
- ☐ Market staff to enforce hand hygiene practice upon entry and exit to the market.
- ☐ Signs and/or audio messages in formats and languages suitable for local audiences within the market prompting customers to practice hand hygiene. Messaging should include information about when to practice hand hygiene as well as how.
- ☐ Personal protective equipment (rubber gloves, thick aprons, and closed shoes) if using 0.05% chlorine solution.
- ☐ Locked location for storing handwashing stations or alcohol-based hand rub dispensers overnight.

## Considerations and challenges for implementation

Continuous oversight will be required to ensure that hand hygiene stations are refilled regularly, which may be difficult without clear management structures.

If water supply is not available on site, it will be more challenging and costly to regularly refill handwashing stations.

There will be costs associated with purchasing the handwashing stations or alcohol-based hand rub dispensers, refilling water and soap (or rub), personal protective equipment (if needed), developing and printing communications materials, and possibly paying staff to refill and reinforce use of hand hygiene stations upon entry and exit.

There could be supply chain constraints on soap and alcohol-based hand rub if demand increases as COVID-19 spreads. Single-use hand drying materials (such as paper towels) are often unavailable.

If using 0.05% chlorine solution, those mixing the solution should be adequately protected by wearing rubber gloves, thick aprons, and closed shoes during the mixing process because of potential skin, eye, and inhalation hazards. They should also be trained on how to mix chlorine solution.

If no rubber gloves are available, other non-permeable gloves can be substituted. Those mixing should remove gloves and wash hands immediately after mixing. If no aprons are available, cleaning personnel can wear protective clothing (such as long pants and long-sleeved shirts) and launder after use.

## Cleaning and Disinfection

### Personal controls: General recommendations for cleaning and disinfection in markets

**Clean and disinfect frequently touched surfaces at least once a day.**<sup>3</sup> In many market settings, the only surfaces that customers touch include the items that they are purchasing, cash, and any shared utensils, cups, or plates for food and beverages sold in markets. It is also possible that surfaces that are porous and therefore difficult to disinfect, such as wood tables, are touched frequently, but this will be different in every market and will need to be left up to the market administrator to assess. Railings, door handles, shopping carts, and sanitation (restroom/toilet/latrine) surfaces are other examples of frequently touched surfaces.

**Cleaning** refers to the removal of germs, dirt, and impurities from surfaces. It does not kill germs, but by removing them, it lowers their numbers and the risk of spreading infection. Removing dirt and impurities also helps disinfectant be more effective.

**Disinfecting** refers to using chemicals, for example, sodium hypochlorite (bleach), to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface after cleaning, it can further lower the risk of spreading infection.

In market settings, use a **0.1% chlorine solution** made from bleach, Calcium Hypochlorite (HTH), or bleaching powder and water (using non-turbid water source) for disinfection. Instructions for using HTH powder or bleaching powder can be found [here](#).

To mix a chlorine solution using liquid bleach, use the percentage found on the bleach bottle (for example, 5%) and **follow these instructions:**<sup>4</sup>

**$[\% \text{ chlorine in liquid bleach} / \% \text{ chlorine desired}] - 1 = \text{Total parts of water for each part bleach}$**


*Example of making 0.1% chlorine solution with 5% liquid bleach:*

$[5\% \text{ chlorine in liquid bleach} / 0.1\% \text{ chlorine desired}] - 1 = [5 / 0.1] - 1$

= 49 parts of water for each 1 part liquid bleach (50 parts total)

If you are using a 20 L jerry can to mix the solution, you need 400 mL of liquid bleach and should fill the rest of the jerry can with water.

20 L / 50 parts = 0.4 L or 400 mL per part

Further instructions are available [here](#) .

## Cleaning and disinfection procedures:<sup>4</sup>

1. Put on personal protective equipment (rubber gloves, thick aprons, and closed shoes, as well as masks and eye protection if available).
2. Mix 0.1% chlorine solution using the procedures described above in well-ventilated area.
3. Clean with detergent or soap and water to remove organic matter.
4. Apply the 0.1% chlorine solution to the surface with a cloth and allow for a contact time (the amount of time that the disinfectant should remain wet and undisturbed on the surface) of at least 1 minute. Additional disinfectant may need to be applied to ensure it remains wet for 1 minute. After 1 minute has passed, rinse residue with clean water (this will also protect the surface or item from damage).
5. After cleaning and disinfection, carefully remove personal protective equipment (PPE) and wash hands immediately. Re-usable PPE (e.g. aprons) should be laundered immediately.

Cleaning and disinfecting should not take place near children or people with asthma.

Procedures for various surfaces (hard surfaces, soft surfaces, electronics, and laundry) can be found [here](#).

## Administrative and engineering controls: Possibilities for markets

- ✓ Market administrators should designate set 'cleaning personnel' (chosen vendors, cleaning staff, or other staff) to carry out cleaning and disinfection of high-touch surfaces once a day, or more frequently if possible. This can take place either before the market opens or after it closes, whichever makes the most sense based on the context.
- ✓ Market administrators and designated cleaning personnel should walk through the market together and decide which surfaces are touched frequently by customers and vendors and therefore should be the target of cleaning and disinfection efforts.
- ✓ Provide the market's designated cleaning personnel with cleaning supplies (soap/detergent, bleach, buckets) and personal protective equipment (PPE) to wear when mixing, cleaning, and disinfecting (rubber gloves, thick aprons, and closed shoes). PPE used for cleaning and disinfecting the market should be stored at the market in a secure, designated area. Cleaning personnel should not bring the PPE home.
- ✓ Provide those who typically clean (vendors, cleaning personnel, or other staff) with information (e.g. written or pictorial instructions) about when and how to clean and disinfect and how to safely prepare disinfectant solutions,

as described in the leftmost column.

## Materials, activities, and personnel needed for implementation

- ☐ Stocks of soap, bleach, buckets, and other cleaning supplies (e.g. mops, rags).
- ☐ Personal protective equipment for designated cleaning personnel (rubber gloves, thick aprons, safety glasses/face shields if available, and closed shoes).
- ☐ Sufficient access to non-turbid water to meet all cleaning and disinfection needs.
- ☐ Communications materials describing the cleaning and disinfection process, including proper mixing of solutions, for use by designated cleaning personnel.

## Considerations and challenges for implementation

There will be costs associated with purchasing the bleach, soap, cleaning supplies, and personal protective equipment; printing communications materials; and possibly having to pay additional staff to clean.

If no rubber gloves are available for cleaning personnel, other non-permeable gloves can be used. If no aprons are available, cleaning personnel can wear protective clothing (such as long pants and long-sleeved shirts) and launder after use.

There could be further supply chain constraints on soap and chlorine products and PPE as demand increases as COVID-19 spreads.


If water supply is not available on site, it will be more challenging and costly to clean and disinfect daily.


There is potential for harm to users when using disinfection products, so it is important for cleaning personnel to be adequately protected in the mixing and disinfection process and trained on how to mix and disinfect.

*Note:* Large-scale spraying of disinfectant in public places, including markets, is **not** recommended. There is limited evidence that it is effective. To be effective, disinfectants need to have sufficient contact time and coverage, which is difficult to get when doing large-scale spraying. There is also limited ability to control spray-related inhalation hazards by nearby people. Additionally, organic matter such as dirt or trash would need to be picked up/removed before disinfectants would work.<sup>4</sup>

# Respiratory Hygiene

## Personal controls: General recommendations for respiratory hygiene in markets

Individuals should **cover coughs and sneezes**  with their elbow or a disposable tissue and clean hands immediately.

In areas where there is any level of known community transmission, all individuals, including those who lack symptoms, should **wear masks** when in public settings where other physical distancing measures are difficult to maintain. Individuals should **wear masks correctly** and make sure they are made from **appropriate materials** . Masks should not be worn by **some individuals** with physical, mental, emotional or behavioral issues, children under 2 years, or anyone who has trouble breathing or is unconscious or incapacitated.

## Administrative and engineering controls: Possibilities for markets

- ✓ Market administrators can make it compulsory for vendors and customers to wear masks while at the market, aside from those **individuals who should not wear masks**.
- ✓ Use of masks can be enforced by the market staff member who is making sure customers practice hand hygiene and informing them about physical distancing measures.
- ✓ In closed markets, open doors and windows as much as possible to increase air flow. If available, fans can help increase air flow. However, steps should be taken to minimize fans blowing from one person directly to another person to reduce the potential spread of respiratory droplets or aerosols.

## Materials, activities, and personnel needed for implementation

- Signs and/or audio messages in formats and languages suitable for local audiences within the market to remind people to wear masks, explain why they are wearing masks (to protect others), and remind them to cover their coughs and sneezes.
- Communication campaigns (via radio, newspaper, social media, WhatsApp, or other platforms) so that customers and vendors are aware of the new procedures and know to bring masks with them when they go to the market.

## Considerations and challenges for implementation

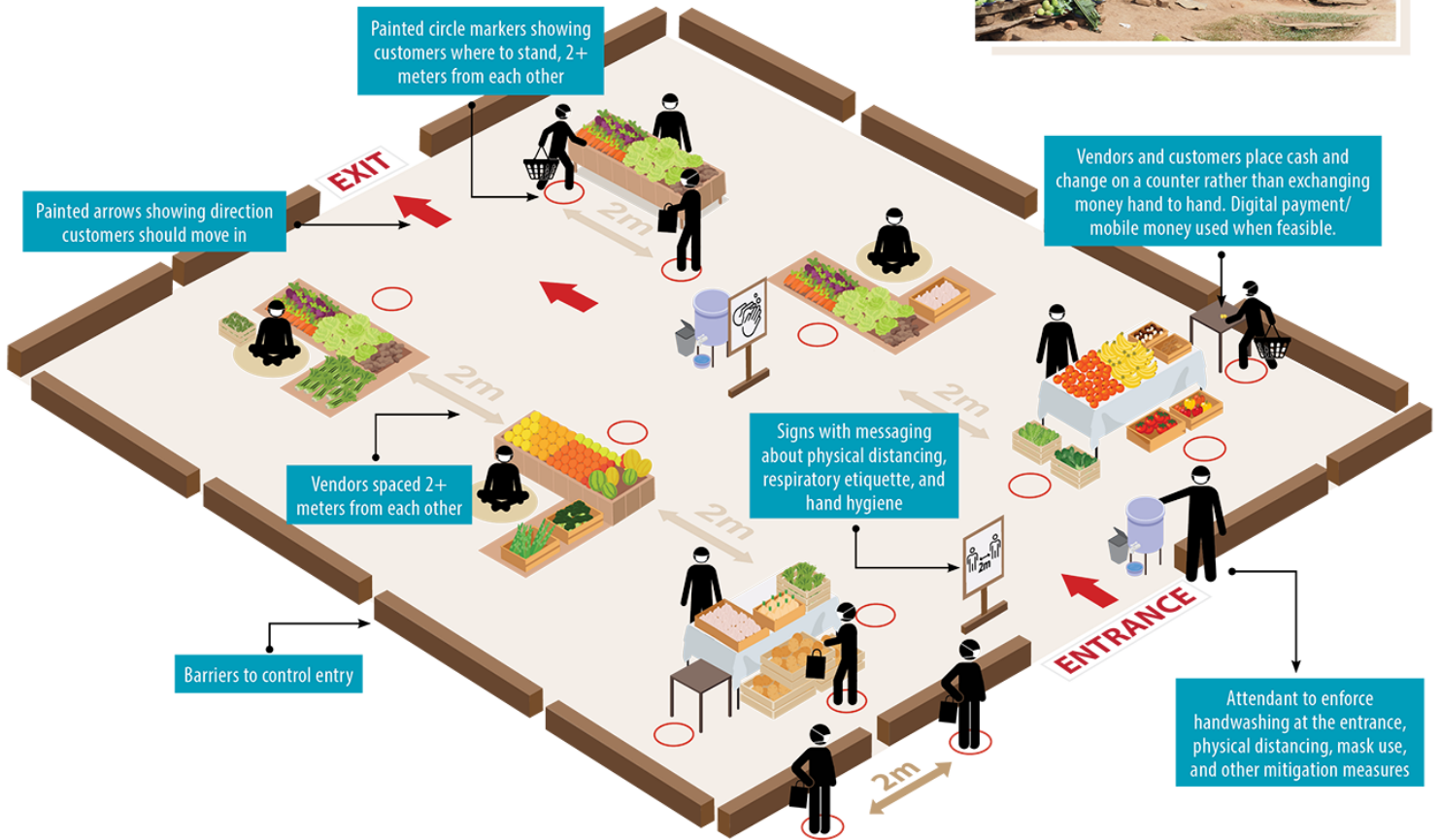
This is a relatively low-cost measure and should be straightforward to implement, especially if masks are encouraged for use in other public settings, but there will still be costs associated with developing and printing communications materials.

## Examples of how COVID-19 mitigation measures could be implemented in different types of markets



# Diagram 1: Informal Outdoor Market

This diagram shows how COVID-19 mitigation measures could be implemented at outdoor markets. The diagram includes mitigation measures such as physical distancing, hand hygiene, and respiratory etiquette. Cleaning and disinfection are not pictured but are critical components of mitigation and should be carried out by designated cleaners (chosen vendors, cleaning staff, or other staff). To the right is a photo example of what this type of market looks like.

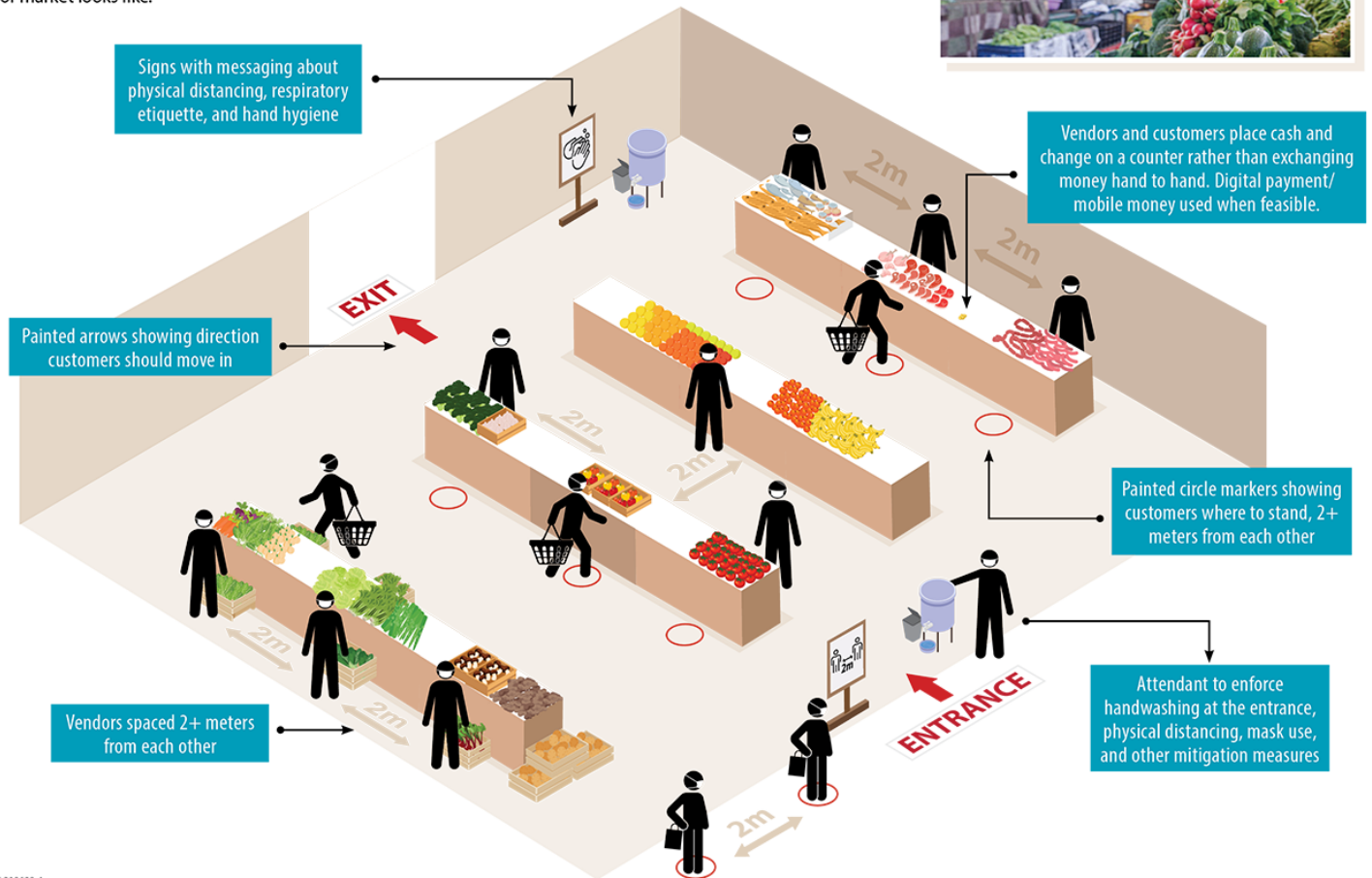


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## Diagram 2: Indoor Vendor Stalls

This diagram shows how COVID-19 mitigation measures could be implemented at markets with indoor vendors stalls. The diagram includes disinfection measures such as physical distancing, hand hygiene, and respiratory etiquette. Cleaning and disinfection are not pictured but are critical components of mitigation and should be carried out by designated cleaners (chosen vendors, cleaning staff, or other staff). To the right is a photo example of what this type of market looks like.

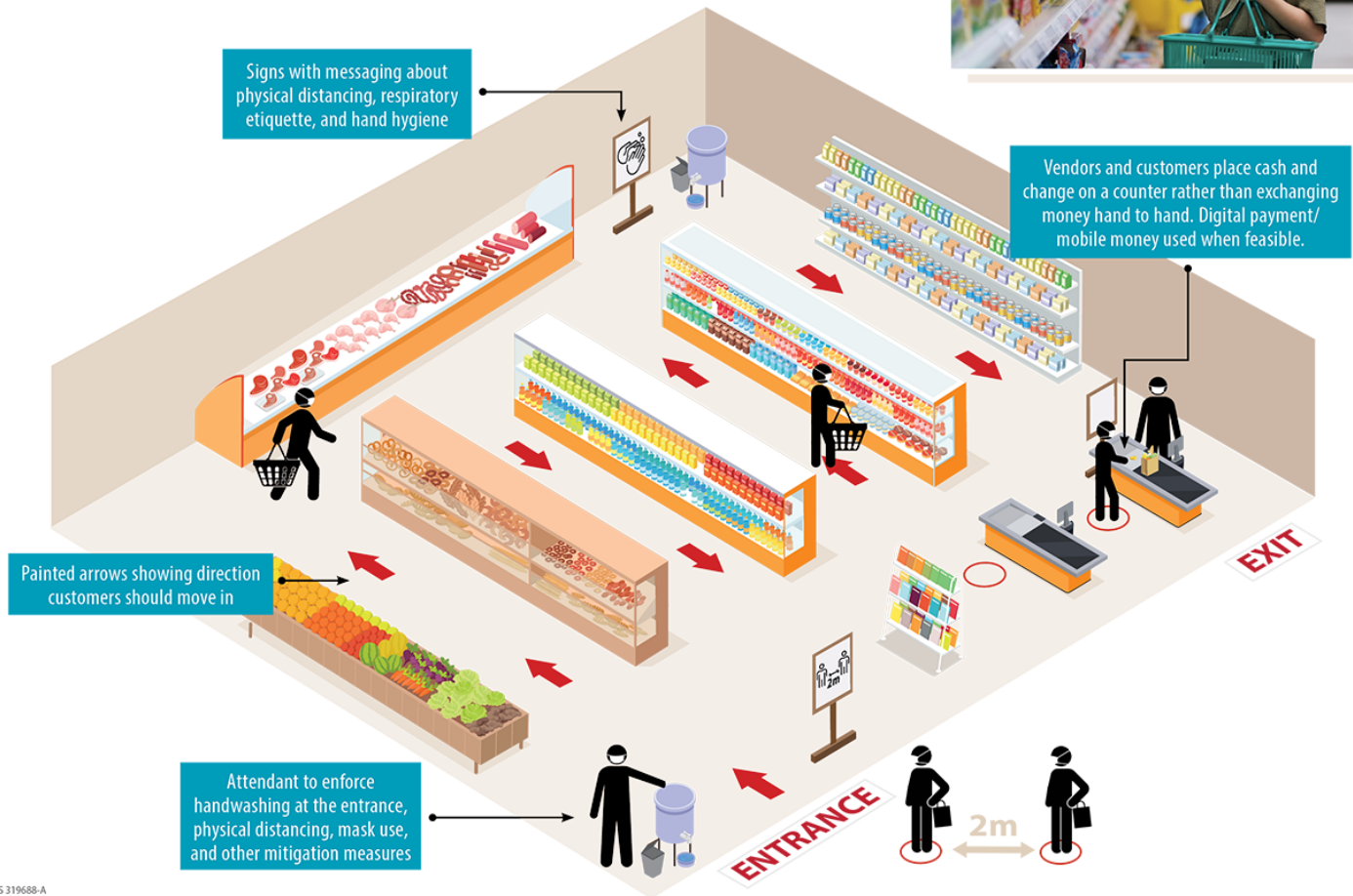


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## Diagram 3: Grocery Store

This diagram shows how COVID-19 mitigation measures could be implemented at grocery stores. The diagram includes mitigation measures such as physical distancing, hand hygiene, and respiratory etiquette. Cleaning and disinfection are not pictured but are critical components of mitigation and should be carried out by designated cleaners (chosen vendors, cleaning staff, or other staff). To the right is a photo example of what this type of market looks like.



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# Resources

[Guidance on Supporting Safe and Functioning Food Markets](#)  [7 pages]  – Feed the Future / USAID

[Tips for Engaging Communities during COVID-19 in Low-Resource Settings, Remotely and In-Person](#)  [31 pages]  – GOARN / IFRC / UNICEF / WHO

# References

1. Feed the Future / USAID. *Guidance on Supporting Safe and Functioning Food Markets USAID Bureau for Resilience and Food Security*; 2020.
2. World Health Organization. *Recommendations to Member States to Improve Hand Hygiene Practices by Providing Universal Access to Public Hand Hygiene Stations to Help Prevent the Transmission of the COVID-19 Virus*; 2020.
3. Centers for Disease Control and Prevention. Cleaning and Disinfecting Your Home. Coronavirus Disease 2019 (COVID-19).
4. World Health Organization (WHO). Considerations for the disinfection of environmental surfaces in the context of COVID-19 – Interim guidance. 2020;(April):2-7.

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Content source: [National Center for Immunization and Respiratory Diseases \(NCIRD\)](#), [Division of Viral Diseases](#)